

Calculating angles around a point

1 Work out the sizes of the unknown angles.

a)



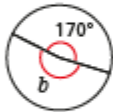
$$a = 300^\circ$$

c)



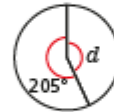
$$c = 231^\circ$$

b)



$$b = 190^\circ$$

d)



$$d = 155^\circ$$

2 Ron turns clockwise through 110 degrees.

He continues to turn the same way.

He wants to turn to where he was facing at the start.

How many more degrees does he need to turn through?



$$250^\circ$$

3 Work out the size of the unknown angles.

a)



$$w = 215^\circ$$

c)



$$y = 120^\circ$$

b)



$$x = 290^\circ$$

d)



$$z = 95^\circ$$

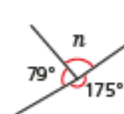
4 Work out the sizes of the unknown angles.

a)



$$m = 160^\circ$$

b)



$$n = 106^\circ$$

- 5 Ms Hall asks her class to draw an angle of 250 degrees.



My protractor only goes up to 180 degrees.

That's true. But I think we can still use it.

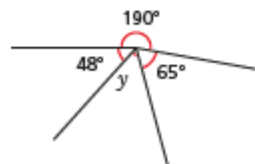


- a) Explain why Alex is correct.
b) Draw an angle of 250 degrees.



Compare methods with a partner.

- 6 Work out the size of angle y .



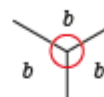
$y = \boxed{57}^\circ$



- 7 Work out the sizes of the unknown angles.

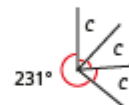
Give reasons to support your answers.

a)



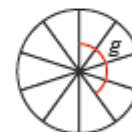
$b = \boxed{120}^\circ$ because angles around a point sum to 360° and $360 \div 3 = 120$

b)



$c = \boxed{43}^\circ$ because angles around a point sum to 360° , $360 - 231 = 129$ and $129 \div 3 = 43$

- 8 A circle is divided into ten equal sections.



What is the size of the angle marked g ?

$g = \boxed{144}^\circ$